

# ALMA Proposal Preparation Tutorials



EUROPEAN ARC  
ALMA Regional Centre || Germany



Argelander-  
Institut  
für  
Astronomie



Universität zu  
*Köln*

# The Life of an ALMA Project

## Part 1

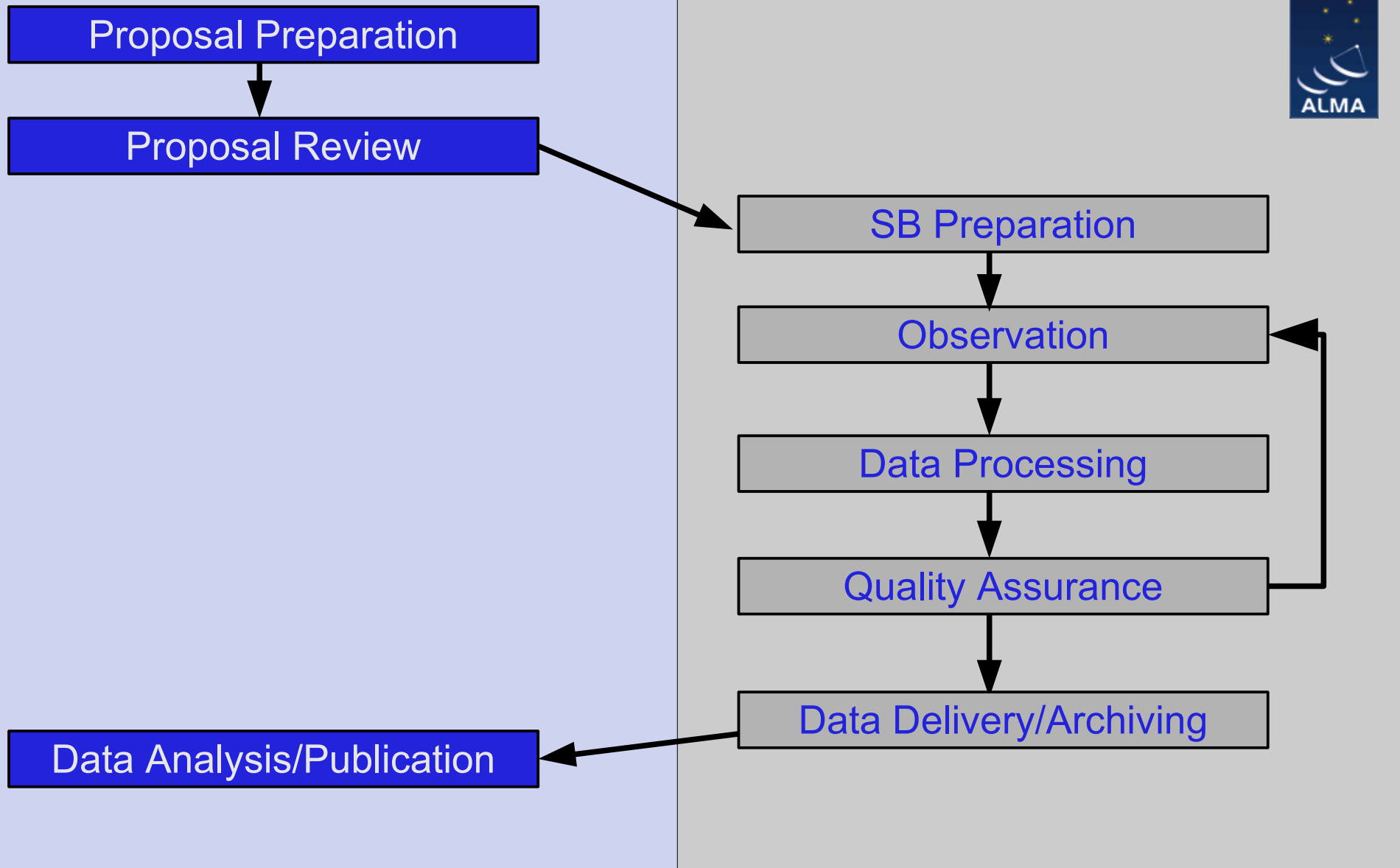
### From the Idea to the ALMA Proposal

Reinhold Schaaf

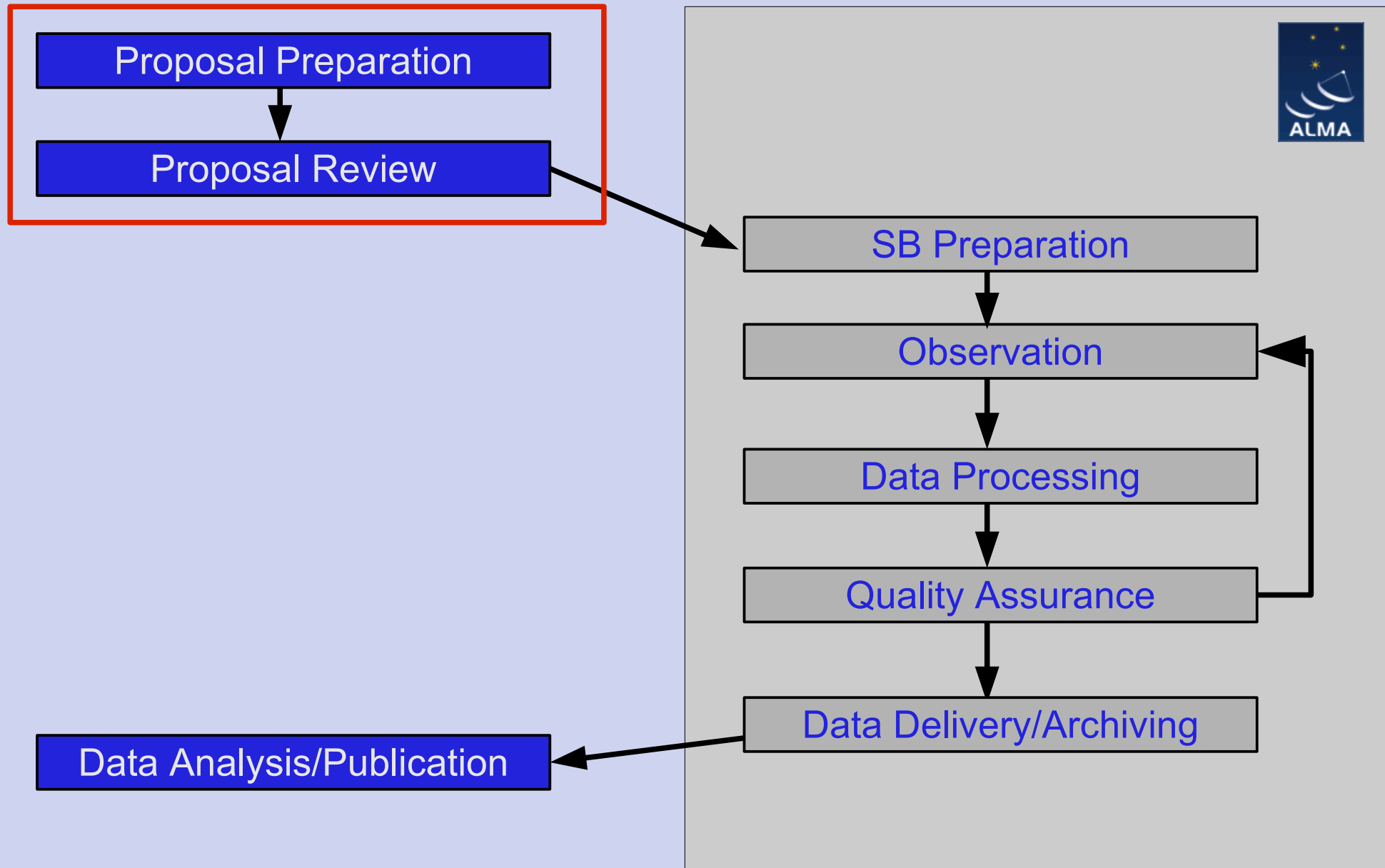
Argelander-Institut für Astronomie  
der Universität Bonn

German ARC node

# The Life of an ALMA Project



# The Life of an ALMA Project

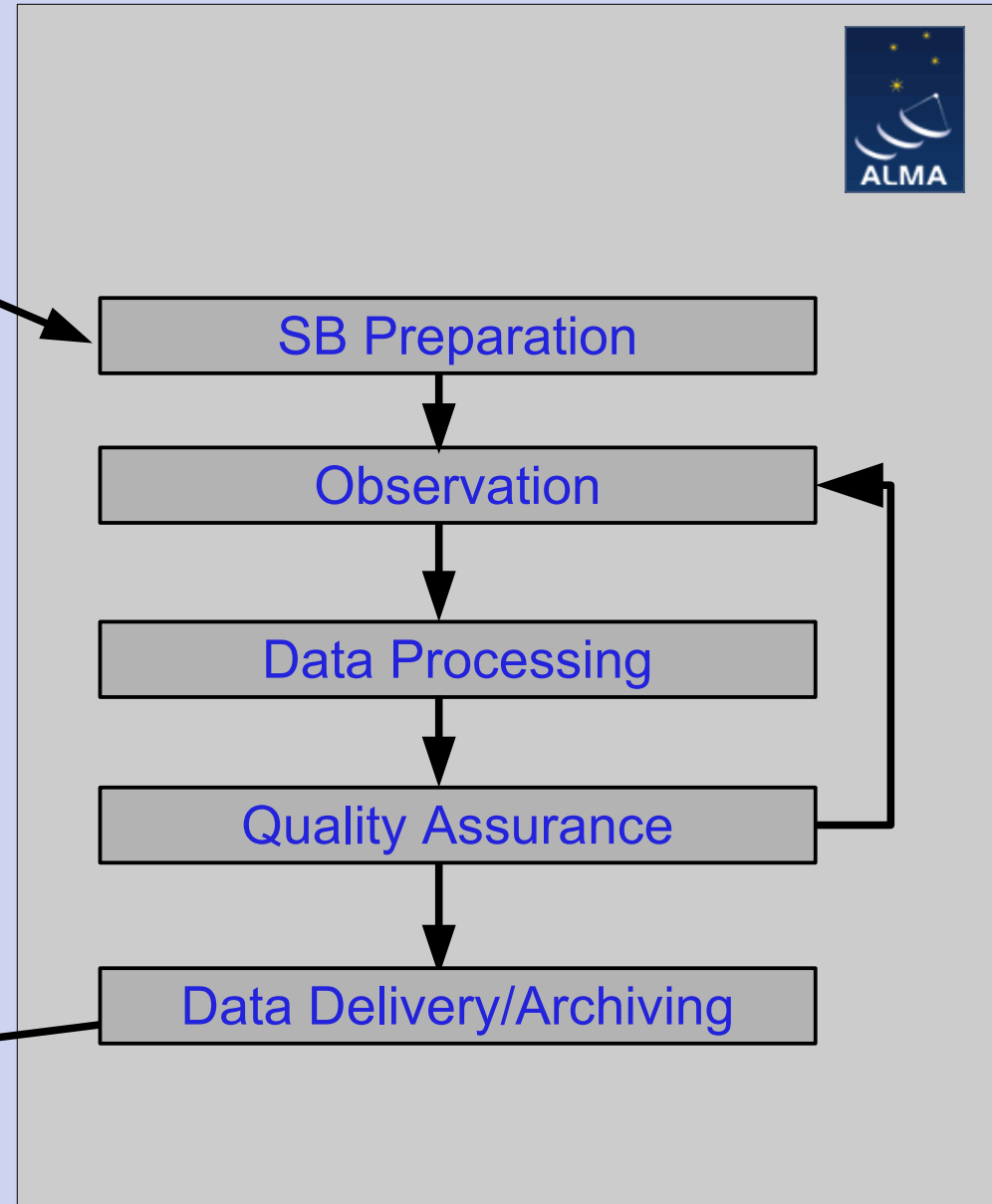
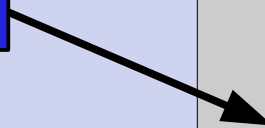


# Proposal Preparation

Proposal Preparation



Proposal Review



Data Analysis/Publication

# Proposal Preparation

- First stop: ALMA Science Portal  
[almascience.eso.org](http://almascience.eso.org)
- Get ALMA Account (PI, Co-PIs, Co-Is)
  - Check and update user information
  - Fill in areas of expertise carefully!
    - Do so before April 26<sup>th</sup> 2022
  - Specify any conflicts of interest

# Proposal Preparation

Home — ALMA Science Portal | Guidelines for Reviewers — ALMA | Dual-Anonymous Guidelines — | Knowledgebase - ALMA Science

https://almascience.eso.org

Suchen

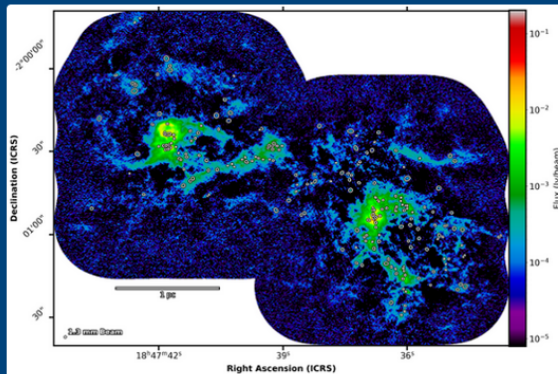
Atacama Large Millimeter/submillimeter Array  
In search of our Cosmic Origins

ALMA

About Science Proposing Observing Data Processing Tools Documentation Help

## Science Highlight

Top-heavy Core Mass function revealed by ALMA-IMF: a challenge to the IMF universality



The W43-MM2&MM3 protocluster cloud, as imaged at 1.3 mm by the ALMA 12 m array. White ellipses outline the size of the 208 compact cores of few thousand AU size extracted by the core extraction algorithm getsf.

The ALMA-IMF Large Program aims to answer the longstanding question on whether the Initial Mass Function (IMF) inherits its shape from its core content, and more precisely the Core Mass Function (CMF). To do that, ALMA-IMF has targeted and imaged 15 high-mass star-forming regions in the nearby Milky Way ( $d \leq 6$  kpc). In a recently accepted paper (Pouteau et al., 2022), the team has used high-resolution,  $\sim 0.5$  arcsec, Band 6 (1.3 mm) and Band 3 (3 mm) data to detect and extract  $\sim 200$  peaked cloud structures of few thousand AU, called cores, in the W43-MM2&MM3 protocluster cloud (see figure). The authors find that, unlike what was found for several decades, the CMF of this cloud - qualified as mini-starburst - is top-heavy, i.e. it has an excess of high-mass cores compared to low and...

More...

## Observatory News

ALMA Cycle 9 Call for Proposals is Now OPEN!  
Mar 24, 2022

ALMA Science Archive previews  
Feb 14, 2022

QA0+ results now available from SnooPI  
Jan 31, 2022

ALMA Cycle 9 Pre-Announcement  
Dec 15, 2021

ALMA Science Archive object-type search, text-based similarity search and Jupyter Notebooks  
Dec 14, 2021

More...

## EU ARC News

Fifth European ALMA Regional Centre community assembly  
Mar 24, 2022

ALMA Regional Centre Astronomer - ESO Garching  
Dec 09, 2021

Research associate - ARC node researcher/developer (closed)  
Dec 06, 2021

Research Associate (UK ARC Node Scientist) position (closed)  
Nov 15, 2021

More...

## ALMA Status

Configuration Schedule

Refereed publications: 2722  
Last observed source: Cen\_A  
Current configuration: C-2

More...

The ALMA Science Portal is a one-stop source for information and tools aimed at the scientific community as a whole, including proposers, archive researchers, ALMA staff, journalists, and funding agencies.

## Quick Links

<a href="#">ALMA Basics</a>	<a href="#">Cycle 9 Call for Proposals</a>
<a href="#">ALMA Science</a>	<a href="#">Cycle 9 Proposer's Guide</a>
<a href="#">ALMA Primer</a>	<a href="#">Proposing Guidance</a>

# Proposal Preparation

Browser tabs: Edit Profile, Guidelines for Reviewers — ALMA, Dual-Anonymous Guidelines —, Knowledgebase - ALMA Science

Browser address bar: <https://asa.alma.cl/UserRegistration/secure/updateAccount.jsp?arc=na>

Search: Suchen

ALMA Atacama Large Millimeter/submillimeter Array  
In search of our Cosmic Origins

ESO NRAO NAOJ

Account info Project delegation Demographics **Expertise** Conflicts of interest Confirm

## Expertise

← Previous → Next

Please select the category/keyword pair/s that best match your scientific expertise. You may select keywords in more than one category. If you are a reviewer for Distributed Peer Review (DPR) you will preferentially be assigned proposals that match your selected keywords.

- > Cosmology and the High Redshift Universe
- > Galaxies and Galactic Nuclei
- ▼ ISM, star formation and astrochemistry
  - Outflows, jets and ionized winds
  - High-mass star formation
  - Intermediate-mass star formation
  - Low-mass star formation
  - Pre-stellar cores, Infra-Red Dark Clouds (IRDC)
  - Astrochemistry
  - Inter-Stellar Medium (ISM)/Molecular clouds
  - Photon-Dominated Regions (PDR)/X-Ray Dominated Regions (XDR)
  - HII regions
  - Magellanic Clouds
- > Circumstellar disks, exoplanets and the solar system
- > Stellar Evolution and the Sun

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# Proposal Preparation

- One PI:
  - Responsible for proposal
  - Official contact between ALMA and proposing team
  - Affiliation of PI determines supporting ARC
    - In Europe also supporting ARC Node
  - Submits proposal
  - Gets notified when data is accessible
  - Can download data
    - May grant others access to data

# Proposal Preparation

- Any number of Co-PIs:
  - Large Programs & mmVLBI only
  - Share overall responsibility in conducting the proposed science
  - Supporting ARC for Large Programs can be changed to that of a Co-PI
- Any number of Co-Is:
  - Any other individual actively involved
- PI, Co-PIs and Co-Is are entitled to receive help from or discuss project details with ALMA staff

# Proposal Preparation

- Get from ALMA Science Portal
  - Documentation for new cycle
    - *Proposer's Guide*
    - *ALMA Users' Policy*
    - *ALMA Primer*
    - *Technical Handbook*
    - *OT documentation*
    - *Dual-anonymous review process guidelines (<https://almascience.eso.org/proposing/alma-proposal-review/dual-anonymous>)*
    - ...
  - Latest version of ALMA Observing Tool (OT)
    - Mandatory to prepare proposals
    - Available for Linux, MacOS, Windows

# Proposal Preparation

- OT must be used for preparation, validation and submission of ALMA proposals
  - New proposals for the new cycle
  - Re-submission of proposals for previous cycle that are not completely observed
- **Deadline: April 21<sup>st</sup> 2022, 15:00 UT**
- No supplemental call for Stand-alone ACA proposals in Cycle 9!

# Proposal Preparation

- ALMA highly over-subscribed, so proposals must be strong
  - Science case
  - Technical justification
  - For detailed considerations that may influence probability of acceptance s. *Proposer's Guide*
- Check whether proposal is duplication of existing observation
  - ALMA Archive ([almascience.eso.org/aq](http://almascience.eso.org/aq))
  - List of earlier programs ([almascience.eso.org/proposing/duplications](http://almascience.eso.org/proposing/duplications))

# Proposal Preparation

- Proposal types:
  - Regular proposals
  - Target of Opportunity (ToO) proposals
    - Target and time not known in advance
  - Large Programs
    - More than 50 hrs 12-m array or 150 hrs stand-alone ACA
  - mm-VLBI and Phased Array proposals
    - VLBI proposals require additional proposal at VLBI network
  - Director Discretionary Time (DDT) proposals
    - Proposals may be submitted at any time

# Proposal Preparation

- Dual-Anonymous Proposal Review
  - Proposal reviewers do not know identity of proposers and vice versa
  - Proposers must ensure their anonymity is preserved
  - Follow guidelines in *Proposer's Guide* and *Dual-anonymous review process guidelines* (<https://almascience.eso.org/proposing/alma-proposal-review/dual-anonymous>)
  - **Proposals that do not follow these guidelines may be rejected!**

# Proposal Preparation

- Support:
  - At Science Portal
    - OT documentation at Science Portal
    - Video tutorials
    - Knowledge base
    - ALMA Helpdesk
  - At ARC nodes
- Make sure to watch Knowledge Base Articles on last-minute changes, clarifications or bug reports
  - [help.almascience.org/kb](http://help.almascience.org/kb)



# Proposal Review

Proposal Preparation

Proposal Review



SB Preparation

Observation

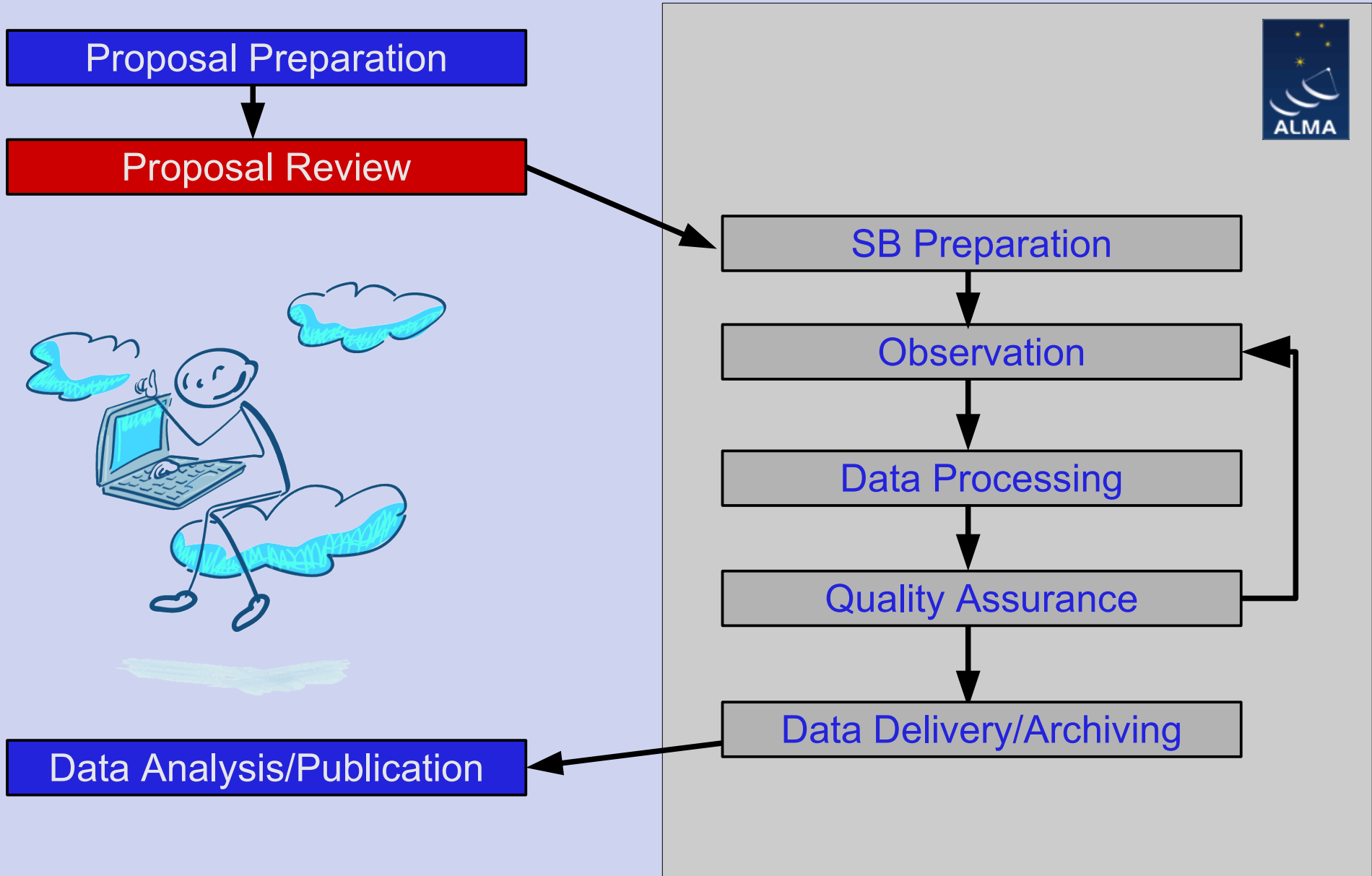
Data Processing

Quality Assurance

Data Delivery/Archiving



Data Analysis/Publication



# Proposal Review

- All proposals with the exception of Large Programs and DDT proposals will go through Distributed Review Process
  - Large Programs and DDT proposals will be assessed by ALMA Proposal Review Panel
- Every proposal must designate one member (PI, Co-PI or Co-I) as reviewer for 10 proposals
- Reviewer will be assigned 10 proposals matching his/her areas of expertise for review and ranking
- Therefore: make sure your areas of expertise and conflict of interests at Science Portal are correct and up-to-date!

# Proposal Review

- **Deadline for ranking/review: June 1st 2022, 15:00 UT**
- If deadline is missed, reviewer's proposal will be rejected!
- An optional second stage will allow modification of ranks and reviews based on other reviewers' comments
  - Deadline for Stage 2: June 16<sup>th</sup> 2022
- See *<https://almascience.eso.org/proposing/alma-proposal-review>* and *Proposer's Guide* for details

# Proposal Review

- PI will receive notification (August 2022)
  - Assigned grade
  - Complete reviews from distributed review process or consensus report of review panel
- Grades for accepted proposals:
  - **A:** Highest priority, carried over to following cycle if not completed
  - **B:** Highest priority, not carried over to following cycle
  - **C:** Filler project, executed if conditions allow no higher priority project

# Proposal Review

- Time shares of nominal time (4300 hrs for each of 12-m, ACA and TP):
  - A: up to 33%
  - B: 67%
  - C: filler time
- Regional shares:
  - Europe: 33.75%
  - North America: 33.75%
  - East Asia: 22.5%
  - Chile: 10%
  - Open Sky: all regions contribute

# Proposal Review

- Shares by proposal types:
  - mmVLBI: up to 5%
  - DDT Proposals: up to 5%
  - Large Programs will not be allowed to exceed 33% (for configurations C-9 and C-10) or 50% (for other configurations) of time for given LST range

# Proposal Review

- See *Proposer's Guide* and *ALMA Users' Policies* for policies for
  - Duplications
  - Large Programs
  - Re-submission of unfinished proposals
  - De-scoping
  - Publication of proposal metadata

# Questions?

Join our virtual community day or  
contact us at [arc@astro.uni-bonn.de](mailto:arc@astro.uni-bonn.de)

[www.astro.uni-bonn.de/ARC/events/proposalprep2022](http://www.astro.uni-bonn.de/ARC/events/proposalprep2022)



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